

WHAT IS CLAIMED IS:

1. A method for optimizing a spectral Doppler display of Doppler ultrasound information comprising:
  - 5 receiving Doppler signal information;
  - processing Doppler signal information for display of a spectral Doppler display in a display area; and
  - analyzing spectral Doppler signal information to 10 optimize at least one of the spectral Doppler display parameters of velocity range, PRF, baseline position or baseline inversion for display of the processed Doppler signal information in the display area.
- 15 2. The method of Claim 1, wherein the optimized display parameters map the processed Doppler signal information to make more extensive use of the display area.
- 20 3. The method of Claim 1, wherein analyzing spectral Doppler signal information to optimize display parameters occurs substantially continuously during display of the Doppler display being optimized.
- 25 4. The method of Claim 1, further comprising updating the display parameters periodically after a predetermined number of heart cycles.
- 30 5. The method of Claim 1, wherein analyzing spectral Doppler signal information to optimize display parameters occurs in response to modification of a Doppler setting by the user.

6. The method of Claim 1, wherein analyzing further comprises analyzing at least some Doppler signal information which is not used to produce a displayed image.

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7. The method of Claim 1, further comprising: storing a sequence of processed Doppler images in memory; and

10 signal information to produce optimized display parameters for display of the stored Doppler images.

15 8. The method of Claim 7, wherein analyzing further comprises analyzing Doppler signal information of a plurality of the images stored in memory.

9. A method for optimizing the display of Doppler ultrasound information comprising:  
20 receiving Doppler signal information;  
processing Doppler signal information for display of an anatomical Doppler display in a display area; and  
analyzing spectral Doppler signal information to  
25 optimize at least one of the display parameters of the PRF, the color baseline, the color range polarity, or the range of color pixel values for display of the processed Doppler signal information in the display area.

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10. The method of Claim 9, wherein processing further comprises processing Doppler signal information for display of a colorflow Doppler display in the display area.

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11. The method of Claim 9, wherein processing further comprises processing Doppler signal information for display of a velocity Doppler display in the display area.

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12. The method of Claim 9, wherein processing further comprises processing Doppler signal information for display of a Doppler M-mode display in the display area.

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13. The method of Claim 9, wherein processing further comprises processing Doppler signal information for display of a power Doppler display in the display area.

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14. The method of Claim 9, wherein the optimized display parameters map the processed Doppler signal information to make more extensive use of the range of color or intensity of displayed Doppler information.

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15. The method of Claim 9, wherein analyzing Doppler signal information to produce optimized display parameters occurs substantially continuously during display of the Doppler display being optimized.

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16. The method of Claim 9, further comprising updating the display parameters periodically after a predetermined number of heart cycles.

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17. The method of Claim 9, wherein analyzing Doppler signal information to produce optimized display parameters occurs in response to modification of a Doppler setting by the user.

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18. The method of Claim 9, wherein analyzing further comprises analyzing at least some Doppler signal information which is not used to produce a  
5 displayed image.

19. The method of Claim 9, further comprising: storing a sequence of processed Doppler images in memory; and  
10 wherein analyzing comprises analyzing Doppler signal information to produce optimized display parameters for display of the stored Doppler images.

20. The method of Claim 19, wherein analyzing  
15 further comprises analyzing Doppler signal information of a plurality of the images stored in memory.

21. A method for optimizing the display of  
20 Doppler ultrasound information comprising: receiving Doppler signal information; processing Doppler signal information for display of an anatomical Doppler display in a display area; and  
25 analyzing Doppler M-mode signal information to produce optimized display parameters for display of the processed Doppler signal information in an anatomical Doppler display in the display area.

30 22. The method of Claim 21, wherein analyzing further comprises analyzing Doppler M-mode signal information to optimize at least one of the parameters of the PRF, the range of color pixel values, the color baseline position, and the color  
35 range polarity.

23. The method of Claim 22, wherein processing further comprises processing Doppler signal information for display of a colorflow Doppler 5 display in the display area.

24. The method of Claim 22, wherein processing further comprises processing Doppler signal information for display of a power Doppler display in 10 the display area.

25. The method of Claim 22, wherein processing further comprises processing Doppler signal information for display of a Doppler M-mode display 15 in the display area.

26. The method of Claim 22, wherein the optimized display parameters act to reduce aliasing in the displayed image. 20

27. The method of Claim 21, wherein analyzing Doppler signal information to produce optimized display parameters occurs substantially continuously during display of the Doppler display being 25 optimized.

28. The method of Claim 21, further comprising updating the display parameters periodically after a predetermined number of heart cycles. 30

29. The method of Claim 21, wherein analyzing Doppler signal information to produce optimized display parameters occurs in response to modification of a Doppler setting by the user. 35

30. The method of Claim 21, wherein analyzing further comprises analyzing at least some Doppler signal information which is not used to produce a displayed image.

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31. The method of Claim 21, further comprising: storing a sequence of processed Doppler images in memory; and

10 signal information to produce optimized display parameters for display of the stored Doppler images.

15 32. The method of Claim 31, wherein analyzing further comprises analyzing Doppler signal information of a plurality of the images stored in memory.

20 33. A method for optimizing the display of Doppler ultrasound information comprising:  
receiving Doppler signal information;  
processing Doppler signal information for display in a display area; and  
analyzing a trace of peak spectral Doppler information to produce optimized display parameters  
25 for display of the processed Doppler signal information in the display area.